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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/606,127 | 06/26/2003 | Jin-Tae Kim | 053785-5117 | 3643 |
| 9629 | 7590 | 03/23/2005 | EXAMINER | |
| MORGAN LEWIS & BOCKIUS LLP 1111 PENNSYLVANIA AVENUE NW WASHINGTON, DC 20004 | | | WANG, GEORGE Y | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2871 | |

DATE MAILED: 03/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/606,127 | KIM ET AL. | |
| | Examiner | Art Unit | |
| | George Y. Wang | 2871 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 11-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,9 and 10 is/are rejected.
- 7) ☒ Claim(s) 7 and 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. Applicant's amended abstract filed January 3, 2005 is accepted by Examiner.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-6 and 9-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Kwon et al. (U.S. Patent No. 6,671,010, hereinafter "Kwon").

Art Unit: 2871

4. As to claim 1, Kwon discloses a liquid crystal display (LCD) device having an array substrate comprising a substrate (fig. 6j, ref. 100), a gate line (fig. 6i, ref. 102) and data line (fig. 6i, ref. 120) on the substrate that cross each other to define a pixel area (fig. 6e, ref. P), a thin film transistor (TFT) (fig. 6i, ref. T) electrically connected to the gate and data lines and including a gate electrode (fig. 6j, ref. 101), a source electrode (fig. 6j, ref. 112) over the gate electrode and connected to the data line, a drain electrode (fig. 6j, ref. 114) spaced apart (fig. 6i, ref. CH) from the source electrode, and a semiconductor layer (fig. 6f, ref. 116) having an active layer over the gate electrode, a first extended portion, and a neck region connecting the active layer and the first extended portion, wherein the neck region is completely covered with the drain electrode (see Response to Arguments), and a pixel electrode (fig. 6j, ref. 117) in the pixel region and connected (fig. 6j, ref. 119) to the drain electrode.

5. Regarding claims 2-3, Kwon discloses the LCD as recited above where the source electrode has a U-shape (fig. 6i, ref. 112; col. 6, lines 55-59) and surrounds a part of the drain electrode (fig. 6i, ref. 114a), which has a rod shape.

6. As per claim 4, Kwon discloses the LCD as recited above further comprising a second extended portion (fig. 6e, ref. 116a) corresponding to the data line (fig. 6e, ref. 120) in the semiconductor layer.

7. As to claims 5 and 9-10, Kwon discloses the LCD as recited above further comprising a doped semiconductor layer (fig. 6f, ref. 118) between the semiconductor layer (fig. 6f, ref. 116) and the source electrode (fig. 6f, ref. 112) and between the semiconductor layer (fig. 6f, ref. 116) and the drain electrode (fig. 6f, ref. 114a) in the TFT and where the semiconductor layer is formed of amorphous silicon and the doped semiconductor layer is formed of doped amorphous silicon (col. 9, lines 38-42).

8. Regarding claim 6, Kwon discloses the LCD as recited above where the first extended portion at the boundary with the active layer has a width narrower than the active layer (fig. 6i, ref. M).

Allowable Subject Matter

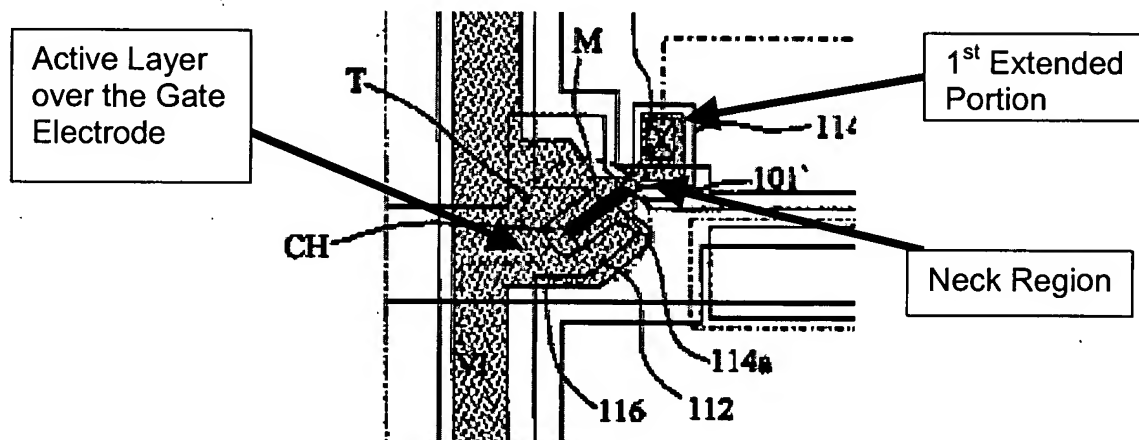
9. Claims 7-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to specifically disclose an LCD device particularly having a first extended portion where the width at the boundary with the active layer is in the range of about 2.8 μm to about 3.4 μm and where the drain electrode completely covering the first extended portion at the boundary with the active layer has a width in a range of about 4.5 μm to about 5.6 μm .

Response to Arguments

10. Applicant's arguments filed January 3, 2005 have been fully considered but they are not persuasive.

Applicant's only argument is that the primary Kwon reference does not teach the claimed feature of "a semiconductor layer having an active layer over the gate electrode, a first extended portion, and a neck region connection the active layer and the first extended portion, wherein the neck region is completely covered with the drain electrode." Applicant's only support for this argument is the mere assertion that "Kwon et al does not show a cross-sectional structure taken along the line IX-XI of Fig. 7 of the present invention." However, Examiner disagrees. The Kwon reference clearly teaches a semiconductor layer (fig. 6f, ref. 116) having an active layer (fig. 6i, see arrow) over the gate electrode, a first extended portion (fig. 6i, see arrow), and a neck region (fig. 6i, see arrow) connecting the active layer and the first extended portion, wherein the neck region is completely covered with the drain electrode (fig. 6i, see dotted circled area).



Since Applicant has provided no further argument or support for how the Kwon reference fails to teach the claimed invention, Examiner holds to the validity of the references and maintains rejection.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Y. Wang whose telephone number is 571-272-2304. The examiner can normally be reached on M-F, 8 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2871

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

gw
March 18, 2005



ROBERT H. KIM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800